

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) An occupied address discover system for use in connection with a computer, comprising:

A. an address inquiry message packet generator module configured to enable the computer to transmit address inquiry message packets over a network in one or more iterations, each address inquiry message packet including a network address, the address inquiry message packet generator module being configured to enable the computer to transmit address inquiry message packets for a selected number of network addresses during each iteration; and

B. an iteration control module configured to control the timing of successive iterations of transmission of the address inquiry message packets by the computer in relation to reception by the computer of response message packets responding to the address inquiry message packets wherein the iteration control module controls the timing of successive iterations to provide at least a selected minimum time period for each iteration.

2. (currently amended) An occupied address discover system as defined in claim 1 in which the iteration control module is configured to control the timing of each successive iterations in relation to reception by the computer of the response message packets responding to the address inquiry message packets transmitted during each respective iteration.

[" 3. (canceled)

3/ 4. (currently amended) An occupied address discover system as defined in claim 3 1 in which the iteration control module is further configured to provide an extended time period longer than the selected at least one minimum time period if the computer receives at least one response message packet responding to the address inquiry message packets during the selected at least one minimum time period.

4/ 5. (original) An occupied address discover system as defined in claim 4 ³ in which the iteration control module is further configured to provide the extended time period if the computer receives at least one response message packet responding to at least one of the address inquiry message packets which were transmitted by the computer during the iteration.

5/ 6. (currently amended) An occupied address discover system as defined in claim 3 1 in which the iteration control module is further configured to provide the extended time period as including at least one incremental time period following the selected at least one minimum time period.

6/ 7. (currently amended) An occupied address discover system as defined in claim 6 ⁵ in which the iteration control module is further configured to provide the extended time period comprising a further incremental time period if the computer receives at least one response message packet responding to the address inquiry message packets during the at least one incremental time period.

7 8. (original) An occupied address discover system as defined in claim ³4 in which the iteration control module is further configured to provide the extended time period up to a selected maximum time period.

8 9. (currently amended) An occupied address discover system as defined in claim 3 1 in which the iteration control module is configured to adjust the selected at least one minimum time period in relation to an average round-trip time representative of a time delay between transmission of address inquiry message packets and reception of respective response message packets in response thereto.

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9 10. (currently amended) An occupied address discover system ~~as defined in claim 4~~ further for use in connection with a computer comprising:

A. an address inquiry message packet generator module configured to enable the computer to transmit address inquiry message packets over a network in one or more iterations, each address inquiry message packet including a network address, the address inquiry message packet generator module being configured to enable the computer to transmit address inquiry message packets for a selected number of network addresses during each iteration;

B. an iteration control module configured to control the timing of successive iterations of transmission of the address inquiry message packets by the computer in relation to reception by the computer of response message packets responding to the address inquiry message packets; and

C. a response message packet reception module configured to, in response to reception by the computer of a response message packet in response to a respective one of the address inquiry message packets transmitted by the computer, generate an occupied address indication for the network address for the respective one of the address inquiry message packets.

¹⁰
~~11.~~ (original) An occupied address discover system as defined in claim ⁹~~10~~ further comprising a selected characteristic discover module configured to perform a selected characteristic discover operation in connection with network addresses for which the response message packet reception module enables generation of an occupied address indication.

¹¹
~~12.~~ (original) An occupied address discover system as defined in claim ¹⁰~~11~~ in which one selected characteristic is whether a device connected in the network which uses a network address for which the occupied address indication was generated is using a port mapper.

¹²
~~13.~~ (currently amended) A method of enabling a computer to discover occupied addresses, comprising the steps of:

A. enabling the computer to transmit address inquiry message packets over a network in one or more iterations, each address inquiry message packet including a network address, in each iteration the computer being enabled to transmit address inquiry message packets for a selected number of network addresses during each iteration; and

B. controlling the timing of successive iterations of transmission of address inquiry message packets by the computer in relation to reception by the computer of response message packets responding to the address inquiry message packets so as to provide at least a selected minimum time period for each iteration.

¹³
~~14.~~ (original) A method as defined in claim ~~13~~¹² in which the iteration control step includes the step of controlling the timing of each successive iterations in relation to reception by the computer of response message packets responding to address inquiry message packets transmitted during each respective iteration.

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15. (canceled)

¹⁴
~~16.~~ (currently amended) A method as defined in claim ~~15~~¹² ~~13~~ in which the iteration control step includes the step of providing an extended time period longer than the selected at least one minimum time period if the computer receives at least one response message packet responding to the address inquiry message packets during the selected at least one minimum time period.

¹⁵
~~17.~~ (original) A method as defined in claim ~~16~~¹⁴ in which the iteration control step includes the step of providing the extended time period if the computer receives at least one response message packet responding to at least one of the address inquiry message packets which were transmitted by the computer during the iteration.

¹²
~~14~~ 18. (currently amended) A method as defined in claim ~~15~~ ¹² ~~13~~ in which the iteration control step includes the step of providing the extended time period as including at least one incremental time period following the selected at least one minimum time period.

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~~19~~ (currently amended) A method as defined in claim ¹⁶ ~~18~~ in which the iteration control step includes the step of providing the extended time period comprising a further incremental time period if the computer receives at least one response message packet responding to the address inquiry message packets during the at least one incremental time period.

¹⁸
~~20~~ (original) A method as defined in claim ¹⁴ ~~16~~ in which the iteration control step includes the step of providing the extended time period up to a selected maximum time period.

¹⁹
~~21~~ (currently amended) A method as defined in claim ¹² ~~15~~ ~~13~~ in which the iteration control step includes the step of adjusting the selected at least one minimum time period in relation to an average round-trip time representative of a time delay between transmission of address inquiry message packets and reception of respective response message packets in response thereto.

²⁰
~~22~~ (currently amended) A method ~~as defined in claim 13 further a message packet reception step of~~, of enabling a computer to discover occupied addresses, comprising the steps of:

A. enabling the computer to transmit address inquiry message packets over a network in one or more iterations, each address inquiry message packet including a network address, in each iteration the computer being enabled to transmit address inquiry message packets for a selected number of network addresses during each iteration;

B. controlling the timing of successive iterations of transmission of address inquiry message packets by the computer in relation to reception by the computer of response message packets responding to the address inquiry message packets; and

C. in response to reception by the computer of a response message packet in response to a respective one of the address inquiry message packets transmitted by the computer, enabling the computer to generate an occupied address indication for the network address for the respective one of the address inquiry message packets.

21
23. (original) A method as defined in claim 22 further comprising a selected characteristic discover step of enabling the computer to perform a selected characteristic discover operation in connection with network addresses for which the response message packet reception module enables generation of an occupied address indication.

22
24. (original) A method as defined in claim 23 in which one selected characteristic is whether a device connected in the network which uses a network address for which the occupied address indication was generated is using a port mapper.

23 ~~25~~ (currently amended) An occupied address discover computer program product for use in connection with a computer, comprising a computer-readable medium having encoded thereon:

A. an address inquiry message packet generator module configured to enable the computer to transmit address inquiry message packets over a network in one or more iterations, each address inquiry message packet including a network address, the address inquiry message packet generator module being configured to enable the computer to transmit address inquiry message packets for a selected number of network addresses during each iteration; and

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B. an iteration control module configured to enable the computer to control the timing of successive iterations of transmission of address inquiry message packets by the computer in relation to reception by the computer of response message packets responding to the address inquiry message packets wherein the iteration control module enables the computer to control the timing of successive iterations to provide at least a selected minimum time period for each iteration.

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26. (original) An occupied address discover computer program product as defined in claim 23 ~~25~~ in which the iteration control module is configured to enable the computer to control the timing of each successive iterations in relation to reception by the computer of response message packets responding to address inquiry message packets transmitted during each respective iteration.

27. (canceled)

²⁵
~~28.~~ (currently amended) An occupied address discover computer program product as defined in claim ~~27~~ ²³ ~~25~~ in which the iteration control module is further configured to enable the computer to provide an extended time period longer than the selected at least one minimum time period if the computer receives at least one response message packet responding to the address inquiry message packets during the selected at least one minimum time period.

²⁶
~~29.~~ (original) An occupied address discover computer program product as defined in claim ~~28~~ ²⁵ in which the iteration control module is further configured to enable the computer to provide the extended time period if the computer receives at least one response message packet responding to at least one of the address inquiry message packets which were transmitted by the computer during the iteration.

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~~30.~~ (currently amended) An occupied address discover computer program product as defined in claim ~~27~~ ²³ ~~25~~ in which the iteration control module is further configured to enable the computer to provide the extended time period as including at least one incremental time period following the selected at least one minimum time period.

²⁸
~~31.~~ (currently amended) An occupied address discover computer program product as defined in claim ~~30~~ ²⁷ in which the iteration control module is further configured to enable the computer to provide the extended time period comprising a further incremental time period if the computer receives at least one response message packet responding to the address inquiry message packets during the at least one incremental time period.

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~~32.~~ (original) An occupied address discover computer program product as defined in claim ~~25~~ 28 in which the iteration control module is further configured to enable the computer to provide the extended time period up to a selected maximum time period.

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~~33.~~ (currently amended) An occupied address discover computer program product as defined in claim ~~27~~ ²³ 28 in which the iteration control module is configured to enable the computer to adjust the selected minimum time period in relation to an average round-trip time representative of a time delay between transmission of address inquiry message packets and reception of respective response message packets in response thereto.

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~~34.~~ (currently amended) An occupied address discover computer program product as defined in claim 25 further comprising for use in connection with a computer, comprising a computer-readable medium having encoded thereon:

A. an address inquiry message packet generator module configured to enable the computer to transmit address inquiry message packets over a network in one or more iterations, each address inquiry message packet including a network address, the address inquiry message packet generator module being configured to enable the computer to transmit address inquiry message packets for a selected number of network addresses during each iteration;

B. an iteration control module configured to enable the computer to control the timing of successive iterations of transmission of address inquiry message packets by the computer in relation to reception by the computer of response message packets responding to the address inquiry message packets; and

C. a response message packet reception module configured to enable the computer to, in response to reception by the computer of a response message packet in response to a respective one of the address inquiry message packets transmitted by the computer, generate an occupied address indication for the network address for the respective one of the address inquiry message packets.

36 32
35. (original) An occupied address discover computer program product as defined in claim *31* ~~34~~ further comprising a selected characteristic discover module configured to enable the computer to perform a selected characteristic discover operation in connection with network addresses for which the response message packet reception module enables generation of an occupied address indication.

33
32 36. (original) An occupied address discover computer program product as defined in claim *35* in which one selected characteristic is whether a device connected in the network which uses a network address for which the occupied address indication was generated is using a port mapper.